



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,215	08/11/2003	Boaz Porat	83143	1259

7590 02/10/2005
Welsh & Katz
22nd Floor
120 South Riverside Plaza
Chicago, IL 60606-3913

EXAMINER

GOSHTASBI, JAMSHID

ART UNIT PAPER NUMBER

2637

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/869,215	Applicant(s) PORAT ET AL.	
	Examiner Jamshid Goshtasbi-G.	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/09/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-20 are pending in the application.

Claim Objections

2. Claims 1-6, 8-10, and 13-20 are objected to because of the following informalities: the legends (reference numbers in brackets) should be deleted. Appropriate correction is required.
3. Claim 10-13 and 15-18 are objected to because "... according to one of the preceding claims..." includes dependency of these device claims on the group of method claims 1-7. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 12 recites the limitation of the "level" of the wake-up signal being less than a

"predetermined maximum PSD-level," for which the disclosed specification fails to provide any enabling description as to what the "level" of the wake-up signal and "maximum PSD-level" are.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6, 12, 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "the detection counter" in line 2. There is insufficient antecedent basis for this limitation in the claim, when taken in combination with one of the preceding claims 1-4.

Claim 12 recites the limitation "the level of the wake-up signal" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claims 14 and 15 recite the limitation "the bit-pattern comparing means" in line 31 and 34, respectively. There is insufficient antecedent basis for this limitation in the claim, when taken in combination with one of the preceding claims preceding Claim 13.

Claim Rejections – 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-11,13, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vitenberg (WO 00/02335) in view of Uppunda et al. (US 6678728 B1), and further in view of Abbate et al. (US 5077552).

As to **Claim 1**, Vitenberg discloses a method for establishing a data transfer link (connecting subscriber line; ADSL connection; page 14, par. 1) between an xDSL (ASDL) user modem (home modem) and a corresponding xDSL modem (office modem) within a central office (page, paragraph) comprising steps of generating a wake-up signal (activation/service request coming from the CPE side; page 14, pars. 1 and 3) identifying the user xDSL modem (home modem type; page 26, par. 3); transmitting upstream (Fig. 1) the generated wake-up data signal from the user xDSL modem (home modem) via a data transfer medium (subscriber line 32, Fig. 1) to the xDSL modem within the central office (concentrator 56 of the office modem; page 14, par. 7); demodulating (concentrator 56 detecting) the transmitted wake-up signal (the activity request from a home modem); and generating a wake-up command signal (concentrator 56 sending a wake up signal to a selected office modem; page 26, par.3), for switching (transferring) the xDSL modem within the central office from a sleep mode (standby state) to an operation mode (a series of states starting with an initialization state; page 26, par. 2) for data transfer.

However, Vitenberg is silent on generating a bit pattern for the wake-up signal

and comparing with a stored wake-up bit pattern for the detection of a transmission of the wake-up bit pattern from the XDSL user modem. However, Uppunda et al., discloses a method and apparatus for automatically loading status information into a network device (col. 1, lines 66-67) wherein an xDSL modem (a network device in a network using an DSL network protocol; col. 2, lines 45-52; Fig. 1) receives wake-up patterns generated (and transmitted) by (other network devices [such as]) user xDSL modems and compares them with stored wake-up patterns for the detection of a transmission of the wake-up bit pattern from a user xDSL modem (other network devices) and generates a wake-up command signal, when the wake-up pattern is detected (to cause the network device to exit the sleep mode; col. 3, lines 48-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the wake-up bit pattern generating/detecting disclosed by Uppunda et al. into the method of Vitenberg because it would provide for causing a network device to exit its power-saving sleep mode, with reduced overhead for the network driver (col. 3, lines 56-60).

Additionally, both Vitenberg and Uppunda et al. are silent on pulse length modulating the generated wake-up bit pattern. In disclosing an interface for coupling audio and video equipment to computer, however, Abbate discloses an interface for allowing a computer to communicate with and control home audio and video devices (col. 3, lines 57-61) wherein (a control-s wired) a bit-pattern (digital data) is pulse length (width) modulated to generate a pulse length (width) modulated signal for transmission (col. 8, lines 12-24; figs. 5A and 5B). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to incorporate the pulse length modulation disclosed by Abbate into the method of Vitenberg in view of Uppunda et al. because it would provide for a simple and low cost interface for communication and control operations in a network of data processing devices (col. 3, lines 63-66), using PLM (PWM) modulation for improved immunity to additive noise and amplitude corruption (as is well known in the art).

As to **Claims 2**, Vitenberg also discloses the [xDSL] modem within the central office commencing a start-up (initialization state; page 26, par. 2) procedure when it is switched to the operation mode.

As to **Claim 3**, the xDSL user modem (a user device) transmitting a wake-up signal (a request for service) periodically to the central office to poll (a server; a modem) is a well-known-in-the-art practice.

As to **Claim 4**, Vitenberg also discloses the [xDSL] modem within the central office being switched from the operation mode to the sleep mode (standby state) when the data transfer is finished (Page 27, last two sentences).

As to **Claims 5-7**, and **16**, the processing or generating a signal based on a counter value--where a counter counts (detects) the number of an occurring event and generates a signal indicating the occurrence of the event for a specific number of times (a threshold that could also be adjustable)—is a practice that is well known in the art.

As to **Claim 8**, the claimed xDSL data transfer system and all recited features correspond with the subject matter mentioned in the rejection of Claim 1 above, similarly

applicable hereto.

As to **Claim 9**, the claimed xDSL data transfer system and all recited features correspond with the subject matter mentioned in the rejection of Claim 1 above, similarly applicable hereto.

As to **Claim 10**, the claimed xDSL data transfer system and all recited features correspond with the subject matter mentioned in the rejection of Claim 1 above, similarly applicable hereto. Furthermore, the generated wake-up bit pattern comprising 16 bits is a design choice.

As to **Claim 11**, the claimed xDSL data transfer system and all recited features correspond with the subject matter mentioned in the rejection of Claim 1 above, similarly applicable hereto. Furthermore, each bit of the wake-up bit pattern determining the duration of a pulse length of a pulse of the pulse length modulated wake-up signal is a well-known-in the-art characteristic of the PLM.

As to **Claim 13**, the claimed xDSL data transfer system and all recited features correspond with the subject matter mentioned in the rejection of Claim 1 above, similarly applicable hereto.

As to **Claim 17**, Vitenberg also discloses xDSL modems being VDSL modems (Page 13, last par.; page 14, par. 1).

As to **Claim 18**, Vitenberg also discloses the data transfer medium being a telephone line (Fig. 1; Page 12, par. 1).

As to **Claim 19**, the claimed xDSL user modem and all recited features

correspond with the subject matter mentioned in the rejection of Claim 1 above, similarly applicable hereto.

As to **Claim 20**, the claimed xDSL modem and all recited features correspond with the subject matter mentioned in the rejection of Claim 1 above, similarly applicable hereto.

Allowable Subject Matter

9. Claims 14 and 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Other prior art cited

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee (US 6523126 B1) discloses an energy-conserving communication apparatus selectively switching between a main processor with main operating instructions and keep-alive processor with keep-alive operating instruction.

Brabenac (US 6523126 B1) disclose a watchdog timer that is disabled upon receiving sleep status signal from monitored device wherein monitored device is not responsive to time-out of watchdog timer.

Tai et al. (US 6795438 B1) discloses a method and apparatus for extending

point-to-point/asynchronous transfer mode services to client computer systems.

Tice (US 5525962 A) discloses a communication system and method that uses PLM.

Wang et al. (US 6556580 B1) discloses multi-function transmit packet buffer.

Singleton et al. (US 6522668 B1) discloses a system and method for special signaling with customer premises equipment.

Mirfakhraei (US 6570912 B1) discloses a hybrid software/hardware discrete multi-tone transceiver.

Contact information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamshid Goshtasbi-G., whose telephone number is (571) 272-3012. The examiner can normally be reached on M-F 8:00/4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

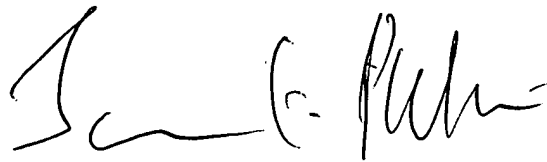
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number: 09/869,215
Art Unit: 2637

Page 10

Business Center (EBC) at 866-217-9197 (toll-free).

Jamshid Goshtasbi-G.
Examiner
Art Unit 2637

A handwritten signature in black ink, appearing to read "Jay K. Patel". The signature is fluid and cursive, with the first name "Jay" being more prominent and the last name "Patel" following in a similar style.

JAY K. PATEL
SUPERVISORY PATENT EXAMINER